

REMARKS

The Applicants appreciate the Examiner's thorough examination of the subject application, and note with appreciation the Examiner's withdrawal of the rejection under 35 U.S.C. 122, second paragraph.

Applicants request reconsideration of the subject application based on the following remarks.

Claims 1, 2, 4, 5, 10, 14-17, 27 and 29 are currently pending in the application. No claims have been amended with this response.

The Office Action

1.) Claims 1-5, 10, 14-17 and 27-29 are rejected under 35 USC 103(a) as being unpatentable over Kuhar reference (US Patent No. 6,531,483) in view of Davies (U.S. Patent No. 5,760,055) and DiNinno (U.S. Patent No. 5,621,133) and Baker (U.S. Patent No. 5,874,090) and Murray (WO 99/10359) or Bell (U.S. Patent No. 5,902,797).

In support of the rejection, the Examiner characterizes the references as follows:

The Examiner states that Kuhar "discloses methods of diagnostic imaging comprising administering a dopamine transporter ligand . . . and performing imaging thereof." The Examiner further states that Kuhar "teaches that the methods are for the detection of attention deficit disorders, see column 2, lines 24-29. The Examiner further states that "[d]iagnostic methods are disclosed in columns 7+ [of Kuhar]. . . to determine the binding to the dopamine transporter."

The Examiner cites the Davies, DiNinno, Baker, Murray, and Bell references as teaching that ADHD and ADD are related.

Finally, the Examiner states that "[i]t would have been obvious to one of ordinary skill in the art to diagnose ADHD given the teaching of diagnosing 'attention deficit disorder' by Kuhar . . .".

Applicant respectfully disagrees both with the characterization of the cited references and with the conclusion. More particularly, Applicants respectfully submit that the references cited by the Examiner are deficient and do not teach or suggest the invention as claimed, whether alone or in combination.

The Kuhar Patent is not an enabling reference as applied to the claims

The Kuhar patent is directed to a class of binding ligands for cocaine receptors, including the use of compounds in both PET and SPECT scanning, "thus providing methods for scanning for the presence of specific cocaine receptors" (column 2, lines 21-23). In some instances, the cocaine receptors can be associated with dopamine or serotonin transporters.

While the Examiner has stated that Kuhar "teaches that the methods are for the detection of attention deficit disorders, see column 2, lines 24-29", Applicants note that the relevant portion from Kuhar is as follows:

Such scanning processes may be used to determine physiological conditions associated with dopamine and serotonin reuptake [sic, reuptake] inhibitors, which lead to behavioral and neurodegenerative disorders/disease. Such disorders include depression, bipolar disorder, eating disorders, obesity, attention deficit disorder, panic attacks and disorders, obsessive-compulsive disorder, Parkinson's disease, and cocaine, nicotine and alcohol addition.

Kuhar at column 2, lines 24-31

It is apparent from this passage that Kuhar does *not* teach methods for diagnosing attention deficit disorder (or ADHD, as required by the pending claims). Indeed, this portion of Kuhar appears to be directed to *discovering* the physiological basis for certain disease conditions. Nowhere in this passage does Kuhar teach or suggest that the physiological basis of ADD (or ADHD) is known, nor that the physiological basis, if known, would permit diagnosis of these conditions. Even if Kuhar did suggest that the physiological basis of ADD (or ADHD) is known, and could be used for diagnosis, Kuhar is silent as to how such a diagnosis could be reached. No citations are provided in Kuhar for any such diagnostic procedure.

The Examiner further states that “[d]iagnostic methods are disclosed in columns 7+ [of Kuhar]. . . to determine the binding to the dopamine transporter.” The teachings of Kuhar in column 7 *et seq.*, as cited by the Examiner, do not remedy the deficiencies noted above. Kuhar discusses *in vitro* and *in vivo* binding assays and methods for detecting binding of compounds to dopamine and serotonin transporters, but Applicants have been unable to find any teaching in Kuhar that would enable the skilled artisan to diagnose ADD (or ADHD) based on such binding.

As mentioned above, Kuhar contains no teaching of how to arrive at a diagnosis of ADD (or ADHD). Applicants respectfully submit that the contents of Kuhar are simply not sufficient to teach one of ordinary skill in the art how to diagnose ADD (or ADHD, as required by the pending claims).

The remaining references do not correct the deficiencies of Kuhar

The Examiner’s citation of the Davies, DiNinno, Baker, Murray, and Bell references does not supply the teachings absent from the Kuhar reference. None of these remaining references, alone or in combination, teach the diagnostic methods of the pending claims. The Davies patent is directed to certain aryltropane derivatives and their use for treatment of various conditions, including “attention-deficit hyperactivity disorder (ADD).” However, there is no teaching in Davies of any method for *diagnosing* ADD (or ADHD).

The DiNinno reference is directed to certain dopamine-agonist compounds and methods for their preparation. DiNinno also discloses methods for treating certain conditions, including attention deficit disorder. DiNinno further states that

A role for dopamine has been established in several other neurological functions, such as cognitive function and attention mechanisms. Animal studies implicate dopamine in attention-related behaviors involving search and exploratory activity, distractibility, response rate, discriminability and the switching of attention. A therapeutic role in the treatment of cognitive impairment and attention deficit disorders has therefore been proposed and is under active investigation for compounds which mimic the receptor activity of dopamine.
DiNinno patent at column 3, lines 22-30.

However, the DiNinno reference does not appear to contain any teachings of diagnosis of ADHD (or ADD) that would permit one of ordinary skill in the art to perform such a diagnosis based on the teachings of DiNinno.

The Baker reference describes the use of sustained-release formulations of certain stereoisomeric forms of methylphenidate for the treatment of ADD or ADHD. While the Baker reference does describe administration of these methylphenidate formulations, it does not teach or suggest methods for diagnosing ADD or ADHD.

Although in the Office Action the Examiner refers to the Murray reference as WO 99/10359, Applicants believe that the intended reference is WO 99/07359, and the following discussion pertains to the WO 99/07359 reference. The Murray reference describes the use of cholinesterase inhibitors such as galantamine in the treatment of ADD (or ADHD). While the Murray reference briefly discusses symptoms of ADD, and refers to the DSM-IV classification of ADD, the Murray reference does not contain any discussion of diagnosing ADD (or ADHD) by the administration of a dopamine receptor ligand (or indeed any other compound), as required by the pending claims of the subject application.

The Bell reference describes a nutritional supplement "for children with [ADD] or [ADHD], particularly for those who are affected by appetite suppression because they are undergoing treatment with psychostimulant medication that has anorectic side effects." Bell patent at column 2, lines 14-19. Other than a passing reference to the DSM-III description of ADHD, the Bell reference contains no discussion of the diagnosis of ADD or ADHD.

Applicants contend that none of the references can be combined with the Kuhar reference to arrive at a teaching or suggestion of the claimed invention. As discussed above, none of the references cited contains a teaching or suggestion of the diagnosis of ADHD which could remedy the deficiencies of the Kuhar. One of ordinary skill in the art would simply not be able to arrive at the invention of the present claims based upon the teachings of Kuhar alone, nor of Kuhar combined with any or all of the secondary references cited above.

For at least the above reasons, Applicants respectfully contend that the rejection of claims 1-5, 10, 14-17 and 27-29 is improper and should be withdrawn. Reconsideration of this rejection is requested.

2. Claim 10 is rejected under 35 USC 103(a) as being unpatentable over the Kuhar reference in view of Davies, DiNinno, Baker, Murray, and Bell, and further in view of Elmaleh (US Patent No. 5,493,026). This rejection is respectfully traversed.

The teachings of the Kuhar, Davies, DiNinno, Baker, Murray, and Bell references have been addressed above.

The Elmaleh reference describes certain substituted nortropine compounds and the use of these compounds to image dopamine-transporter-containing neurons. As the Examiner states, Elmaleh does describe iodoaltropine. However, Elmaleh contains no discussion of ADD or ADHD at all, and contains no discussion of diagnosis of ADD or ADHD.

Thus, the Elmaleh reference cannot remedy the deficiencies noted above in the discussion of the Kuhar, Davies, DiNinno, Baker, Murray, and Bell references. Given the paucity of teachings of these references, one of skill in the art could not have been motivated to combine the cited references to arrive at the claimed invention. Therefore, reconsideration and withdrawal of the rejection of claim 10 is proper and the same is requested.

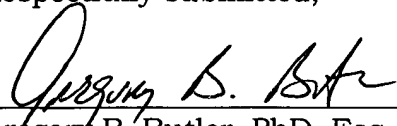
For at least the foregoing reasons, it is believed that Claims 1, 2, 4, 5, 10, 14-17, 27 and 29 are in condition for allowance. Favorable reconsideration and allowance of this application, therefore, is respectfully requested in response to this communication.

Applicants believe that additional fees are not required to complete the filing requirements for the subject application or otherwise in connection with this submission. However, if a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge/credit Deposit Account No. **04-1105**.

Respectfully submitted,

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